

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A receiver system processing an input signal containing signals of interest and unwanted interference signals, wherein said signals of interest are present in a frequency band of interest, said input signal being formed using a carrier frequency, said receiver system comprising:

a mixer with a high gain for processing said input signal to generate an intermediate signal in the form of electric current with a larger swing of said electric current compared to the swing of electric voltage in response to changes in said input signal, wherein said intermediate signal is generated with said frequency band of interest centered at a first frequency not equal to said carrier frequency; and

a filter circuit filtering said unwanted interference signals from said intermediate signal received in the form of electric current to generate said signals of interest as an output signal.

2. (Original) The receiver system of claim 1, wherein said output signal is generated in the form of electric voltage, said receiver system further comprising an analog to digital converter (ADC) converting said output signal in the form of electric voltage to a plurality of digital codes representing said signals of interest.

3. (Original) The receiver system of claim 2, further comprising a low noise amplifier which provides said input signal in an amplified form to said mixer.

4. (Original) The receiver system of claim 1, wherein said first frequency is lower than said carrier frequency.

5. (Original) The receiver system of claim 4, wherein said first frequency equals 0.

6. (Cancelled).

7. (Currently Amended) The receiver system of claim 6~~1~~, wherein said filter circuit is implemented with low input impedance to receive said electric current.

8. (Currently Amended) ~~The receiver system of claim 1, wherein~~A receiver system processing an input signal containing signals of interest and unwanted interference signals, wherein said signals of interest are present in a frequency band of interest, said input signal being formed using a carrier frequency, said receiver system comprising:

a mixer processing said input signal to generate an intermediate signal in the form of electric current, wherein said intermediate signal is generated with said frequency band of interest centered at a first frequency not equal to said carrier frequency, said mixer comprises:

a first transistor, a second transistor and a third transistor, each comprising a source terminal, a drain terminal and a gate terminal; and

a first current source and a second current source together setting a bias point for linear operation of each of said first transistor, said second transistor and said third transistor,

wherein one terminal of each of said first current source and said second current source is connected to a supply voltage, the other terminal of said first current source being connected to the drain terminal of said second transistor at a first node, the other terminal of said second current source being connected to the drain terminal of said third transistor,

the gate terminal of said each of said second transistor and said third transistor being connected to receive a fixed frequency signal,

the source terminals of said second transistor and said third transistor being connected to the drain terminal of said first transistor,

the source terminal of said first transistor being connected to Vss, and

the gate terminal of said first transistor being connected to receive said input signal; and

a filter circuit filtering said unwanted interference signals from said intermediate signal received in the form of electric current to generate said signals of interest as an output signal.

9. (Original) The receiver system of claim 8, wherein each of said first transistor, said second transistor and said third transistor comprises a NMOS transistor.

10. (Original) The receiver system of claim 8, wherein said filter circuit is implemented as a first order filter.

11. (Original) The receiver system of claim 10, wherein said filter circuit comprises:

an operational amplifier having an inverting terminal and a non-inverting terminal, said inverting terminal being connected to said first node; and

a resistor and a capacitor connected in parallel between said inverting terminal and an output terminal of said operational amplifier.

12. (Original) The receiver system of claim 11, wherein said inverting terminal is connected to said first node without a resistor in between.

13. (Original) The receiver system of claim 8, wherein said filter circuit is implemented as a second order filter.

14. (Original) The receiver system of claim 13, wherein said filter circuit comprises:

a first resistor having one terminal connected to said first node;

a first capacitor being connected between said one terminal of said first resistor and Vss;

an operational amplifier having an inverting terminal and a non-inverting terminal, said inverting terminal being connected to another terminal of said first resistor;

a second resistor connected between said first node and an output terminal of said operational amplifier; and

a second capacitor connected between said inverting terminal and said output terminal.

15. (Currently Amended) The invention of claim 1 or 8, wherein said receiver system is comprised in a Wireless Local Area Network (WLAN) receiver.

16. (Currently Amended) A receiver system processing an input signal containing signals of interest and unwanted interference signals, wherein said signals of interest are present in a frequency band of interest, said input signal being formed using a carrier frequency, said receiver system comprising:

means for converting said input signal to an intermediate signal in the form of electric current, wherein said intermediate signal is generated with said frequency band of interest centered at a first frequency not equal to said carrier frequency; and

means for filtering said unwanted interference signals from said intermediate signal received in the form of electric current to generate and amplify said signals of interest as an output signal in a voltage domain.

17. (Cancelled).

18. (Currently Amended) A method of processing an input signal containing signals of interest and unwanted interference signals, wherein said signals of interest are present in a frequency band of interest, said input signal being formed using a carrier frequency, said method comprising:

~~converting said input signal~~ generating an intermediate signal in the form of electric current with a larger swing of said electric current compared to the swing of electric voltage in response to changes in said input signal, wherein said intermediate signal is generated with said frequency band of interest centered at a first frequency not equal to said carrier frequency; and

filtering said unwanted interference signals from said intermediate signal received in the form of electric current to generate said signals of interest as an output signal.

19. (Original) The method of claim 18, wherein said output signal is provided in a voltage domain.

20. (Original) The method of claim 19, further comprising sampling said output signal in said voltage domain.